CLAIMS

1. An information providing apparatus for supplying data or programs over a network to a robot apparatus, comprising:

content storage means having stored data or programs to be supplied to the robot apparatus;

receiving means for receiving an inquiry, pertinent to a service request and the information pertinent to the robot apparatus, from the robot apparatus;

analyzing means for analyzing said inquiry; and

transmitting means for transmitting data or programs, matched to services requested, to said robot apparatus.

2. The information providing apparatus according to claim 1, wherein the apparatus communicates with the robot apparatus in accordance with a SOAP (Simple Object Access Protocol).

3. The information providing apparatus according to claim 1, further comprising:

a database for supervising the supplementary information pertinent to data or programs stored in said content storage means; and

means for taking the matching between said inquiry and the supplementary information of said database, for preparing a list of data or programs that may be provided, and for returning said list to the robot apparatus.

4. The information providing apparatus according to claim 3, further comprising:

means for returning, responsive to results of selection from said robot

apparatus for said list of data or programs that can be provided, a method for accessing said selected data or programs;

said transmitting means transmitting the data or programs, as requested, responsive to an access request matched to said accessing method from said robot apparatus.

5. The information providing apparatus according to claim 3, wherein said supplementary information pertinent to said data or programs includes the information pertinent to services and the information pertinent to the robot apparatus.

6. The information providing apparatus according to claim 1 or 5, wherein said information pertinent to the robot apparatus includes at least a part of the following information:

(1) an ID proper to a robot apparatus, uniquely allocated to each robot apparatus;

(2) a robot sort ID uniquely allocated to each of the sorts of the robot apparatus;

(3) a list of functions of the robot apparatus;

(4) the information indicating the hardware architecture of the robot apparatus; and

(5) a database list owned by the robot apparatus.

7. The information providing apparatus according to claim 1, wherein

said information pertinent to the robot apparatus includes at least a list of functions of the robot apparatus, and

said information providing apparatus further comprising:

means for specifying the functions needed for said robot apparatus to render services; and

means for comparing the needed functions specified by said function specifying means to said list of functions of the robot apparatus for specifying the functions in deficit in said robot apparatus, among said needed functions;

said transmitting means transmitting the data or programs for replacing the functions in deficit by functions usable by said robot apparatus.

8. The information providing apparatus according to claim 1, wherein

the information pertinent to said robot apparatus includes at least a list of functions of the robot apparatus, and

said information providing apparatus further comprising:

object storage means for storage of functional objects utilized by said robot apparatus;

means for specifying the functions needed for said robot apparatus to render services;

means for comparing the needed functions specified by said function specifying means to said list of functions of the robot apparatus for specifying the functions in deficit in said robot apparatus, among said needed functions; and

retrieving means for retrieving an object of the function in deficit, matched to said function in deficit, from said object storage means;

said transmitting means transmitting said object of the function in deficit,

along with the data or programs matched to the requested services, to said robot apparatus.

9. An information providing method for providing data or programs over a network to a robot apparatus, comprising:

a receiving step of receiving, from said robot apparatus, an inquiry containing the information pertinent to a service request and the information pertinent to said robot apparatus;

an analysis step of analyzing said inquiry; and

a transmitting step of transmitting the data or program, matched to the requested service, to said robot apparatus.

10. The information providing method according to claim 9, wherein communication with the robot apparatus is by SOAP (Simple Object Access Control).

11. The information providing method according to claim 9, further comprising:

a step of supervising the supplementary information pertinent to each data or program as a database; and

a step of taking the matching of said inquiry and the supplementary information of said database, formulating a list of the data or programs that can be provided, and returning the list to the robot apparatus.

12. The information providing method according to claim 11, further comprising:

a step of returning, responsive to the results of selection from said robot

apparatus for said list of the data or programs that can be provided, a method for accessing the data or programs selected;

said transmitting step transmitting data or the program as requested, responsive to the access request complying with said access method from said robot apparatus.

13. The information providing method according to claim 11, wherein said supplementary information pertinent to said data or programs includes the information pertinent to services and the information pertinent to the robot apparatus.

14. The information providing method according to claim 9 or 13, wherein said information pertinent to the robot apparatus includes at least a part of the following information:

(1) an ID proper to a robot apparatus, uniquely allocated to each robot apparatus;

(2) a robot sort ID uniquely allocated to each of the sorts of the robot apparatus;

(3) a list of functions of the robot apparatus;

(4) the information indicating the hardware architecture of the robot apparatus; and

(5) a database list owned by the robot apparatus.

15. The information providing method according to claim 9, wherein

said information pertinent to the robot apparatus includes at least a list of functions of the robot apparatus, and

said information providing method further comprising:

a step of specifying the functions needed for said robot apparatus to render services; and

a step of comparing the needed functions specified by said function specifying means to said list of functions of the robot apparatus for specifying the functions in deficit in said robot apparatus, among said needed functions;

said transmitting step transmitting the data or programs for substituting the functions usable by said robot apparatus for the functions in deficit.

16. The information providing method according to claim 9, wherein

the information pertinent to said robot apparatus includes at least a list of functions of the robot apparatus, and

said information providing method further comprising:

a step of specifying the functions needed for said robot apparatus to render services;

a step of comparing the needed functions as specified by said needed function specifying step to said list of functions of the robot apparatus for specifying the functions in deficit in said robot apparatus, among said needed functions; and

a retrieving step of retrieving an object of the function in deficit, matched to said function in deficit, from object storage means having stored therein functional objects utilized by said robot apparatus;

said transmitting step transmitting said object of the function in deficit, along

with the data or programs matched to the requested services, to said robot apparatus.

17. An information providing system including a robot apparatus and an information providing apparatus for supplying data or programs over a network to a robot apparatus, said system comprising:

content storage means having stored data or programs to be supplied to the robot apparatus;

receiving means for receiving an inquiry, pertinent to a service request and the information pertinent to the robot apparatus, from the robot apparatus;

analyzing means for analyzing said inquiry; and

transmitting means for transmitting data or programs, matched to services requested, to said robot apparatus.

18. The information providing method according to claim 17, wherein the method communicates with the robot apparatus in accordance with a SOAP (Simple Object Access Protocol).

19. The information providing method according to claim 17, further comprising:

a database for supervising the supplementary information pertinent to data or programs stored in said content storage means; and

means of taking the matching between said inquiry and the supplementary information of said database, for preparing a list of data or programs that may be provided, and for returning said list to the robot apparatus.

20. The information providing system according to claim 19, further comprising:

means for returning, responsive to results of selection from said robot apparatus for said list of data or programs that can be provided, a method for accessing said selected data or programs;

said transmitting means transmitting the data or programs, as requested, responsive to an access request matched to said accessing method from said robot apparatus.

21. The information providing method according to claim 19, wherein said supplementary information pertinent to said data or programs includes the information pertinent to services and the information pertinent to the robot apparatus.

22. The information providing system according to claim 17 or 21, wherein said information pertinent to the robot apparatus includes at least a part of the following information:

(1) an ID proper to a robot apparatus, uniquely allocated to each robot apparatus;

(2) a robot sort ID uniquely allocated to each of the sorts of the robot apparatus;

(3) a list of functions of the robot apparatus;

(4) the information indicating the hardware architecture of the robot apparatus; and

(5) a database list owned by the robot apparatus.

23. The information providing system according to claim 17, wherein

said information pertinent to the robot apparatus includes at least a list of

functions of the robot apparatus, and

said information providing apparatus further comprising:

means for specifying the functions needed for said robot apparatus to render services; and

means for comparing the needed functions specified by said function specifying means to said list of functions of the robot apparatus for specifying the functions in deficit in said robot apparatus, among said needed functions;

said transmitting means transmitting the data or programs for substituting the functions usable by said robot apparatus for said functions in deficit.

24. The information providing system according to claim 17, wherein

the information pertinent to said robot apparatus includes at least a list of functions of the robot apparatus, and

said information providing apparatus further comprising:

object storage means having stored therein the functional objects utilized by said robot apparatus;

means for specifying the functions needed for said robot apparatus to render services;

means for comparing the needed functions specified by said function specifying means to said list of functions of the robot apparatus for specifying the functions in deficit in said robot apparatus, among said needed functions; and

retrieving means for retrieving an object of the function in deficit, matched to

said function in deficit, from said object storage means;

said transmitting means transmitting said object of the function in deficit, along with the data or programs matched to the requested services, to said robot apparatus.